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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/597,866	06/20/2000	Michael James Heller	255/040	5697

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LYON & LYON LLP
633 WEST FIFTH STREET
SUITE 4700
LOS ANGELES, CA 90071

EXAMINER

FORMAN, BETTY J

ART UNIT	PAPER NUMBER
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1634

DATE MAILED: 04/15/2002

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/597,866

Applicant(s)

HELLER ET AL.

Examiner

BJ Forman

Art Unit

1634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,7-9,13 and 15-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,7-9,13 and 15-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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FINAL ACTION

1. This action is in response to papers filed 5 February 2002 in Paper No. 9 in which claims 1, 4 and 7-9 were amended, claims 3, 5-6, 10-12 and 14 were canceled. All of the amendments have been thoroughly reviewed and entered. The previous rejections in the Office Action of Paper No. 7 dated 5 November 2001 are withdrawn in view of the amendments. All of the arguments have been thoroughly reviewed but are deemed moot in view of the amendments, withdrawn rejections and new grounds for rejection. New grounds for rejection are discussed.

The examiner's Art Unit has changed from 1655 to 1634. Please address future correspondence to Art Unit 1634.

Currently claims 1, 2, 4, 7-9, 13 and 15-18 are under prosecution.

Specification

2. The previous objection to the specification is withdrawn in view of the Amendments filed in Paper No. 9.

Priority

3. Applicant's claim for domestic priority under 35 U.S.C. 120 is acknowledged. The Applications to which Applicants claim priority provide adequate support under 35 U.S.C. 112, for pending claims 1, 2, 4, 7-9, 13 and 15-18. The effective filing date for the pending claims is the filing date of Parent Application 08/146,504 i.e. 11/01/1993.

Applicant's Petition to Correct Inventorship under 37 C.F.R. § 1.48 (c) is acknowledged.

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Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1, 2, 4, 7, 9, 13 and 15-17 are rejected under 35 U.S.C. 102(3) as being anticipated by Hollis et al. (U.S. Patent No. 5,846,708, filed 23 April 1992).

Regarding Claim 1, Hollis et al disclose an apparatus for detection of a biological reaction between a sample and an active area of a biochip comprising: a biochip having an active area, the active area comprise a plurality of electronically addressable micro-locations, the micro-locations comprising an electrode and a permeation layer (i.e. disposable plate formed of glass, plastic, Al₂O₃) having specific binding entities attached and a fluidic system comprising a flow cell adjacent to the biochip (Column 6, lines 29-67 and Claims 6-9). Additionally, they teach the active area optionally comprises a gel permeation layer (Column 21, lines 43-47).

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Regarding Claim 2, Hollis et al disclose the apparatus wherein the fluidic system is in direct contact with the biochip (Column 6, lines 40-41 and Fig. 1-4).

Regarding Claim 4, Hollis et al disclose the apparatus wherein the flow cell substantially surrounds the active area of the biochip (Column 6, lines 29-67 and Fig. 1-4).

Regarding Claim 7, Hollis et al disclose the apparatus wherein the flow cell has a defined volume i.e. flow cells of defined size also have defined volume (Column 15, lines 12-37).

Regarding Claim 9, Hollis et al disclose the apparatus wherein the flow cell further includes an inlet port and an outlet port (Column 15, lines 28-42 and Fig. 19 and 20).

Regarding Claim 13, Hollis et al. disclose the apparatus wherein the biochip is disposed on a circuit board (Column 14, lines 49-65).

Regarding Claim 15, Hollis et al. disclose the circuit board further including wires connecting the biochip to the circuit board (Column 4, lines 23-31 and Fig. 1).

Regarding Claim 16, Hollis et al. disclose the circuit board is a printed circuit board i.e. semiconductor chip (Column 4, lines 28-31).

Regarding Claim 17, Hollis et al. disclose the circuit board wherein the wires are embedded in a protective material i.e. semiconductor or dielectric material (Column 14, lines 42-48).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject

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matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hollis et al. (U.S. Patent No. 5,846,708, filed 23 April 1992) in view of Ebersole et al. (U.S. Patent No. 5,658,732, filed 1 March 1995).

Regarding Claim 8, Hollis et al. apparatus wherein the flow cell has a small volume (Column 15, lines 12-37) but they do not teach the volume from about 5 to 10 microliters. However, small hybridization volumes were well known in the art and Ebersole et al. teach a motivation for reducing hybridization volumes i.e. reassociation kinetics are faster and the amount of costly reagents is reduced (Column 13, lines 62-67). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to minimize the small volumes in the apparatus of Hollis et al. and using routine experimentation determine the minimal volumes e.g. 5 to 10 microliters, to thereby optimize experimental results for the known benefits of minimized hybridization volumes i.e. increased speed and efficient use of reagents as taught by Ebersole et al. (Column 13, lines 62-67). It is noted that *In re Aller*, 220 F.2d 454,456, 105 USPQ 233,235 states where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum by routine experimentation.

8. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hollis et al. (U.S. Patent No. 5,846,708, filed 23 April 1992).

Regarding Claim 18, Hollis et al. teach the apparatus wherein the electrodes are embedded in epoxy (Column 11, lines 5-15) but they do not teach the epoxide comprises ultraviolet light resistant epoxy. The courts have stated that a chemical composition and its

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properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990) see MPEP § 2112.01. Because Hollis et al teach the electrodes are embedded in epoxy, It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made that the epoxide of Hollis et al comprise the claimed property of light resistance.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Conclusion

10. No claim is allowed.

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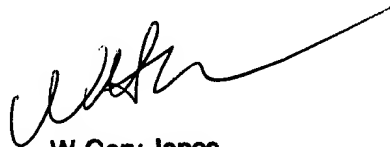
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BJ Forman whose telephone number is (703) 306-5878. The examiner can normally be reached on 6:30 TO 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones can be reached on (703) 308-1152. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4242 for regular communications and (703) 308-8724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.



BJ Forman, Ph.D.
Patent Examiner
Art Unit: 1634
April 8, 2002



W. Gary Jones
Supervisory Patent Examiner
Technology Center 1600